Application Number : 10/820,661   Confirmation Number: 8024
Applicant   : Paul A. Martin
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T.C./A.U.   : 2169
Examiner   : Kim, Paul
Docket Number : SUN04-0234
Customer No.   : 57960

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Sir:

   Applicant respectfully requests a pre-appeal brief conference to review the matters identified below. More specifically, Applicant requests a review of the rejections of the above-referenced application under 35 U.S.C. § 103(a) as being obvious based on McGregor (*Practical C++*, published by Que on 11 August 1999, hereinafter "McGregor") in view of Guthrie II (U.S. Patent No. 7,225,210, hereinafter "Guthrie").

I. STATUS OF APPLICATION

   In the Official Action mailed on 03 September 2008 (hereinafter "0903 OA"), Examiner reviewed claims 1, 3-15, 17-29, and 31-42. Examiner rejected claims 1, 4, 6-9, 11, 13-14, 15, 18, 20-23, 25, 27-28, 29, 32, 34-37, 39, and 41-42 under 35 U.S.C. § 103(a) based on McGregor in view of Guthrie. Examiner rejected claims 3, 17, and 31 under 35 U.S.C. § 103(a) based on McGregor in view of Guthrie and further in view of Official Notice.

II. REMARKS AND ARGUMENTS

   Examiner rejected claims 1, 4, 6-9, 11, 13-14, 15, 18, 20-23, 25, 27-28, 29, 32, 34-37, 39, and 41-42 under 35 U.S.C. § 103(a) based on McGregor in view of Guthrie. Applicant respectfully disagrees with the rejection. The rejection of independent claims 1, 15, and 29 under 35 U.S.C. § 103(a) is improper because the gap between the prior art and the claimed invention is so great as to render the claims nonobvious

to one reasonably skilled in the art. Applicant addresses this point in the following section.

The Gap between the Prior Art and the Claimed Invention is so Great as to Render the Claims Nonobvious to One Reasonably Skilled in the Art

When establishing a prima facie case when rejecting claims under 35 U.S.C. § 103, Examiner's cited prior art must cover the claimed subject matter (see MPEP § 2141(II)(A)(1)). Where the prior art does not cover the claimed subject matter, Examiner is required to explain the differences:

> The prior art reference (or references when combined) need not teach or suggest all the claim limitations, however, **Office personnel must explain why the difference(s) between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art**; and

> The gap between the prior art and the claimed invention may not be so great as to render the claim nonobvious to one reasonably skilled in the art (see MPEP § 2141(III)).

Applicant respectfully notes that Examiner has failed to establish prima facie obviousness because Examiner has failed to explain fundamental differences between the cited McGregor prior art and independent claims 1, 15, and 29 in the instant application. Specifically, Examiner has failed to explain how McGregor's disclosure of a two-step node-deletion operation renders obvious the present invention's single **atomic operation** for updating a node in the linked list

McGregor Nowhere Discloses Performing an Atomic Operation for Updating a Node in a Linked List

The claimed invention performs **a single atomic operation on a linked list to update data in a given node.** The atomic operation includes two sub-operations: (1) inserting a new node into the linked list; and (2) marking an existing node to indicate deletion (see paragraph [0033] of the instant application). The atomic operation

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enables these operations to outwardly appear as a single operation, thereby preventing erroneous accesses of the data within the node.

In the 0903 OA, Examiner averred that McGregor discloses the single atomic operation by reciting "*all you have to do is swap the pointers of the nodes on either side of the node you are deleting*" (see 0903 OA, page 3, paragraph 4). Applicant respectfully disagrees with the rejection. Applicant respectfully points out that McGregor fails to disclose at least two of the features within the single atomic operation, as detailed below.

1. McGregor Nowhere Discloses a Single Atomic Operation

McGregor describes on page 10 that the pointer swapping operation for deleting a node is a **two-step operation** which includes **two sequential steps** (see McGregor, page 10, lines 2-8). Specifically, McGregor recites:

> "All you have to do is swap the pointers of the nodes on either side of the node you are deleting. You swap the pointers in **two steps**.
>
> **First**, using extended pointer-to-member notation to access the next node's mypPrev member, assign to it the address of the target node's mypPrev member, like this: pNode ->mypNext->mypPrev = pNode->mypPrev;
>
> **Second,** using extended pointer-to-member notation to access the previous node's mypNext member, assign to it the address of the target nodes mypNext member, like this: pNode ->mypPrev->mypNext = pNode->mypNext;"

Applicant respectfully points out in disclosing a **two-step sequential operation, McGregor teaches directly away from the single atomic operation in the instant invention**.

2. McGregor Describes a Node-Deletion Operation Fundamentally Different than the Single Atomic Operation of the Instant Application

McGregor describes an operation fundamentally different from the single atomic operation used in the claimed embodiments. Recall that the single atomic

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operation is used to update an existing node by both (1) *inserting* a new node into the linked list by adjusting a pointer to an existing node; and (2) *marking* the existing (outdated) node to indicate deletion. In contrast, McGregor is directed to *deleting* an existing node from the list by *redirecting* the pointers of the nodes on either side of the node.

Applicant respectfully points out that there are at least two differences between the claimed embodiments and McGregor. First, the two-step operation in McGregor does not insert a new node into a linked list, whereas the single-atomic operation in the instant application inserts a new node into a linked list. Second, the two-step operation in McGregor removes a node from the linked list, whereas the single-atomic operation in the instant application merely marks an outdated version node to indicate deletion (thereby preventing any of the data in the node from being read in the event that the node is accessed). In fact, in the claimed embodiments, the marked node is not actually *removed* from the linked list until a subsequent splicing operation is performed on the marked node.

Hence, McGregor not only fails to disclose the individual features of the single atomic operation, but fails to disclose combining these features into a single atomic operation.

We now turn to Guthrie, which describes a snapshot system configured to create and make available multiple snapshots representing different states of the data at various times (see Guthrie. Col. 7, lines 15-20). More specifically, Guthrie describes various techniques for making snapshots of existing nodes by copying the contents of the existing nodes into new nodes and then modifying pointers to add the new nodes into the linked list. However, the snapshots copying process described by Guthrie does not suggest or imply **performing a single atomic operation to achieve the two described objectives within the single atomic operation.**

In summary, the combined system of McGregor and Guthrie nowhere discloses performing a single atomic operation to achieve the two above-described

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objectives. Hence, the rejection of the independent claims 1, 15, and 29 under 35 U.S.C. § 103(a) based on McGregor in view of Guthrie is incorrect because the combined system is fundamentally distinct from the claimed invention. Applicant, therefore, respectfully requests the withdrawal of the rejection of these claims under 35 U.S.C. § 103(a).

CONCLUSION

It is submitted that the application is presently in form for allowance. Such action is respectfully requested.

Respectfully submitted,

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